

#21



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## RAW SEQUENCE LISTING

DATE: 04/24/2003

PATENT APPLICATION: US/09/597,513

TIME: 16:22:37

Input Set : A:\C33061.app

Output Set: N:\CRF4\04242003\I597513.raw

3 <110> APPLICANT: Collmer, Alan  
 4 Charkowski, Amy  
 5 Alfano, James R.  
 7 <120> TITLE OF INVENTION: HYPERSENSITIVE RESPONSE ELICITOR FROM PSEUDOMONAS  
 8 SYRINGAE AND ITS USE  
 10 <130> FILE REFERENCE: 19603/3306  
 12 <140> CURRENT APPLICATION NUMBER: 09/597,513  
 13 <141> CURRENT FILING DATE: 2000-06-20  
 15 <150> PRIOR APPLICATION NUMBER: 09/120,817  
 16 <151> PRIOR FILING DATE: 1998-07-22  
 18 <150> PRIOR APPLICATION NUMBER: 60/055,107  
 19 <151> PRIOR FILING DATE: 1997-08-06  
 21 <160> NUMBER OF SEQ ID NOS: 13  
 23 <170> SOFTWARE: PatentIn Ver. 2.1  
 25 <210> SEQ ID NO: 1  
 26 <211> LENGTH: 1729  
 27 <212> TYPE: DNA  
 28 <213> ORGANISM: Pseudomonas syringae  
 30 <400> SEQUENCE: 1  
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 33 cctctgagtg cgggtgcggag caataccagt cttcctgctg gcgtgtgcac actgagtcgc 180  
 34 aggcataggc atttcagttc cttgcgttgg ttgggcataa aaaaaaaggga acttttaaaa 240  
 35 acagtgcaat gagatgcccg caaaacggga accggtcgct gcgctttgcc actcacttcg 300  
 36 agcaagctca accccaaaca tccacatccc tatcgaacgg acagcgatac ggccacttgc 360  
 37 tctggtaaac cctggagctg gcgtcggtcc aattgcccac ttagcgaggt aacgcagcat 420  
 38 gagcatcggc atcacacccc ggccgcaaca gaccaccacg ccactcgatt ttcggcgct 480  
 39 aagcggcaag agtcctcaac caaacacggt cggcgagcag aacactcagc aagcgatcga 540  
 40 cccgagtgca ctggtgttcg gcagcgacac acagaaagac gtcaacttcg gcacgcccga 600  
 41 cagcaccgtc cagaatccgc aggacgccag caagcccaac gacagccagt ccaacatcgc 660  
 42 taaattgatc agtgcatgta tcatgtcggt gctgcagatg ctcaccaact ccaataaaaa 720  
 43 gcaggacacc aatcaggaac agcctgatag ccaggtcctt ttccagaaca acggcgggct 780  
 44 cggtagaccg tcggccgata gcgggggagg cggtacaccg gatgcgacag gtggcgggcg 840  
 45 cggtagatcg ccaagcgcaa caggcggtgg cggcggtgat actccgaccg caacaggcg 900  
 46 tggcggcagc ggtggcgggc gcacaccac tgcaacaggt ggcggcagcg gtggcacacc 960  
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 48 ccctaaccgt acctcaggta ctggctcggt gtcggacacc gcaggttcta ccgagcaagc 1080  
 49 cggcaagatc aatgtggtga aagacaccat caaggtcggc gctggcgaag tctttgacgg 1140  
 50 ccacggcgca accttactg ccgacaaatc tatgggtaac ggagaccagg gcgaaaatca 1200  
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 52 cgaggtcgat ggcattccag tgaaagccaa aaacgctcag gaagtcacca ttgacaacgt 1320  
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 54 cactaatctg aacatcaaga acagcagtcg caaaggtgca gacgacaagg ttgtccagct 1440

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55 caacgccaac actcacttga aaatcgacaa cttcaaggcc gacgatttcg gcacgatggt 1500
56 tcgcaccaac ggtggcaagc agtttgatga catgagcatc gagctgaacg gcatcgaagc 1560
57 taaccacggc aagttcgccc tggtgaaaag cgacagtgc gatctgaagc tggcaacggg 1620
58 caacatcgcc atgaccgacg tcaaacacgc ctacgataaa acccaggcat cgacccaaca 1680
59 caccgagctt tgaatccaga caagtagctt gaaaaaaggg ggtggactc 1729
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63 <211> LENGTH: 424
64 <212> TYPE: PRT
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67 <400> SEQUENCE: 2
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69 1 5 10 15
71 Asp Phe Ser Ala Leu Ser Gly Lys Ser Pro Gln Pro Asn Thr Phe Gly
72 20 25 30
74 Glu Gln Asn Thr Gln Gln Ala Ile Asp Pro Ser Ala Leu Leu Phe Gly
75 35 40 45
77 Ser Asp Thr Gln Lys Asp Val Asn Phe Gly Thr Pro Asp Ser Thr Val
78 50 55 60
80 Gln Asn Pro Gln Asp Ala Ser Lys Pro Asn Asp Ser Gln Ser Asn Ile
81 65 70 75 80
83 Ala Lys Leu Ile Ser Ala Leu Ile Met Ser Leu Leu Gln Met Leu Thr
84 85 90 95
86 Asn Ser Asn Lys Lys Gln Asp Thr Asn Gln Glu Gln Pro Asp Ser Gln
87 100 105 110
89 Ala Pro Phe Gln Asn Asn Gly Gly Leu Gly Thr Pro Ser Ala Asp Ser
90 115 120 125
92 Gly Gly Gly Gly Thr Pro Asp Ala Thr Gly Gly Gly Gly Gly Asp Thr
93 130 135 140
95 Pro Ser Ala Thr Gly Gly Gly Gly Asp Thr Pro Thr Ala Thr Gly
96 145 150 155 160
98 Gly Gly Gly Ser Gly Gly Gly Gly Thr Pro Thr Ala Thr Gly Gly Gly
99 165 170 175
101 Ser Gly Gly Thr Pro Thr Ala Thr Gly Gly Gly Glu Gly Gly Val Thr
102 180 185 190
104 Pro Gln Ile Thr Pro Gln Leu Ala Asn Pro Asn Arg Thr Ser Gly Thr
105 195 200 205
107 Gly Ser Val Ser Asp Thr Ala Gly Ser Thr Glu Gln Ala Gly Lys Ile
108 210 215 220
110 Asn Val Val Lys Asp Thr Ile Lys Val Gly Ala Gly Glu Val Phe Asp
111 225 230 235 240
113 Gly His Gly Ala Thr Phe Thr Ala Asp Lys Ser Met Gly Asn Gly Asp
114 245 250 255
116 Gln Gly Glu Asn Gln Lys Pro Met Phe Glu Leu Ala Glu Gly Ala Thr
117 260 265 270
119 Leu Lys Asn Val Asn Leu Gly Glu Asn Glu Val Asp Gly Ile His Val
120 275 280 285
122 Lys Ala Lys Asn Ala Gln Glu Val Thr Ile Asp Asn Val His Ala Gln
123 290 295 300
125 Asn Val Gly Glu Asp Leu Ile Thr Val Lys Gly Glu Gly Gly Ala Ala

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126 305          310          315          320
128 Val Thr Asn Leu Asn Ile Lys Asn Ser Ser Ala Lys Gly Ala Asp Asp
129          325          330          335
131 Lys Val Val Gln Leu Asn Ala Asn Thr His Leu Lys Ile Asp Asn Phe
132          340          345          350
134 Lys Ala Asp Asp Phe Gly Thr Met Val Arg Thr Asn Gly Gly Lys Gln
135          355          360          365
137 Phe Asp Asp Met Ser Ile Glu Leu Asn Gly Ile Glu Ala Asn His Gly
138          370          375          380
140 Lys Phe Ala Leu Val Lys Ser Asp Ser Asp Asp Leu Lys Leu Ala Thr
141 385          390          395          400
143 Gly Asn Ile Ala Met Thr Asp Val Lys His Ala Tyr Asp Lys Thr Gln
144          405          410          415
146 Ala Ser Thr Gln His Thr Glu Leu
147          420
150 <210> SEQ ID NO: 3
151 <211> LENGTH: 28
152 <212> TYPE: DNA
153 <213> ORGANISM: Pseudomonas syringae
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160 <211> LENGTH: 28
161 <212> TYPE: DNA
162 <213> ORGANISM: Pseudomonas syringae
164 <400> SEQUENCE: 4
165 atgaaagctt aagctcgggtg tggtgggt          28
168 <210> SEQ ID NO: 5
169 <211> LENGTH: 28
170 <212> TYPE: DNA
171 <213> ORGANISM: Pseudomonas syringae
173 <400> SEQUENCE: 5
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178 <211> LENGTH: 28
179 <212> TYPE: DNA
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182 <400> SEQUENCE: 6
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187 <211> LENGTH: 32
188 <212> TYPE: DNA
189 <213> ORGANISM: Pseudomonas syringae
191 <400> SEQUENCE: 7
192 ccatcgatgg tggtagcgat agctagactt gg          32
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197 <212> TYPE: DNA
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205 <211> LENGTH: 8
206 <212> TYPE: PRT
207 <213> ORGANISM: Artificial Sequence
209 <220> FEATURE:
210 <223> OTHER INFORMATION: Description of Artificial Sequence: amino acids
211     121-128 of Pseudomonas syringae pv. tomato HrpZ
213 <400> SEQUENCE: 9
214 Gly Gly Gly Leu Ser Ser Asp Ala
215   1                5
218 <210> SEQ ID NO: 10
219 <211> LENGTH: 11
220 <212> TYPE: PRT
221 <213> ORGANISM: Artificial Sequence
223 <220> FEATURE:
224 <223> OTHER INFORMATION: Description of Artificial Sequence: amino acids
225     234-244 of Pseudomonas syringae pv. tomato HrpZ
227 <400> SEQUENCE: 10
228 Gly Gly Gly Leu Gly Ser Pro Val Ser Asp Ser
229   1                5                10
232 <210> SEQ ID NO: 11
233 <211> LENGTH: 11
234 <212> TYPE: PRT
235 <213> ORGANISM: Artificial Sequence
237 <220> FEATURE:
238 <223> OTHER INFORMATION: Description of Artificial Sequence: amino acids
239     285-295 of Pseudomonas syringae pv. tomato HrpZ
241 <400> SEQUENCE: 11
242 Gly Gly Gly Leu Gly Thr Pro Val Asp Asn Ser
243   1                5                10
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247 <211> LENGTH: 10
248 <212> TYPE: PRT
249 <213> ORGANISM: Artificial Sequence
251 <220> FEATURE:
252 <223> OTHER INFORMATION: Description of Artificial Sequence: amino acids
253     211-220 of Pseudomonas syringae pv. syringae HrpZ
255 <400> SEQUENCE: 12
256 Gly Gly Leu Gly Thr Pro Ser Ser Phe Ser
257   1                5                10
260 <210> SEQ ID NO: 13
261 <211> LENGTH: 6
262 <212> TYPE: PRT
263 <213> ORGANISM: Artificial Sequence
265 <220> FEATURE:
266 <223> OTHER INFORMATION: Description of Artificial Sequence: amino acids
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269 <400> SEQUENCE: 13  
270 Gly Gly Leu Gly Thr Pro  
271 1 5

**VERIFICATION SUMMARY**

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